

JB

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JB/T 8727-2004

Replacing JB/T 8727-1998

Hydraulic hose assemblies

液压软管 总成

(English Translation)

Issued on: October 20, 2004

Implemented on: April 1, 2005

**Issued by: Ministry of Industry and Information Technology of the
People's Republic of China**

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1 Scope

This Standard specifies the product classification, basic parameters, connection dimension, usability, technical conditions, test methods, inspection rules, marking, packaging, storage, transportation, etc. of flared (nominal inner-diameter of

5mm~31.5mm), ferrule (nominal inner-diameter of 5mm~38mm), welding (or quick-change, nominal inner-diameter of 5mm~51mm), flange, and 24° cone sealing steel wire reinforced hydraulic rubber hose assemblies (hereinafter referred to as

"steel-wire-braided hydraulic hose assemblies") and steel-wire-wound reinforced hydraulic rubber hose assemblies (hereinafter referred to as "steel-wire-wound hydraulic hose assemblies").

This Standard applies to the steel-wire-braided hydraulic hose assemblies (working temperature range of -40°C ~ +100°C), Type 1 ~ 5 steel-wire-wound hydraulic hose assemblies (working temperature range of -40°C ~ +100°C), and Type 6 steel-wire-wound hydraulic hose assemblies (working temperature range of -10°C ~

+121°C) with hydraulic oil (fluid) as the working medium.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 3 Run-outs, undercuts and chamfers for general purpose metric screw threads (GB/T 3-1997, eqv ISO 3508:1976, ISO 4755:1983)

GB/T 196 General purpose metric screw threads - Basic dimensions

GB/T 197 General purpose metric screw threads - Tolerances

GB/T 699 Quality carbon structural steels

GB/T 1184-1996 Geometrical tolerancing - Geometrical tolerances for features without individual tolerance indications (eqv ISO 2768-2:1989)

GB/T 1804-2000 General tolerances - Tolerances for linear and angular dimensions without individual tolerance indications (eqv ISO 2768-1:1989)

GB/T 2828.1 Sampling procedures for inspection by attributes - Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

GB/T 3103.1 Tolerances for fasteners - Bolts, screws, studs and nuts (GB/T 3103.1-2002, ISO 4759-1:2000, IDT)

GB/T 3683 Rubber hoses and hose assemblies - Wire-braid-reinforced hydraulic types for oil-based or water-based fluids - Specification

GB/T 7935 Hydraulic fluid power - General requirements for hydraulic components

GB/T 7939 Hydraulic fluid power - Hose assemblies - Test methods (GB/T 7939-1987, neq ISO 6605:1986)

GB/T 9576 Rubber and plastics hoses and hose assemblies - Guide to selection, storage, use and maintenance (GB/T 9576-2001, idt ISO 8331:1991)

GB/T 9577 Rubber and plastics hoses and hose assemblies - Rules for marking, package and transportation

GB/T 10544 Rubber hoses and hose assemblies - Rubber-covered, spiral wire reinforced, hydraulic type

GB/T 17446 Fluid power systems and components - Vocabulary

JB/T 7858 Method to determine cleanliness and acceptance criteria for hydraulic

components

ISO 6162:1994 Hydraulic fluid power - Four-screw split-flange connections for use at pressures of 2.5 MPa to 40 MPa (25 bar to 400 bar) - Type I metric series and type II inch series

ISO 8434-4:1995 Metallic tube connections for fluid power and general use - Part 4: 24 degree cone connectors with O-ring weld-on nipples

3 Terms and definitions

The following terms and definitions AND those defined in GB/T 17446 apply to this Standard.

3.1 Maximum working pressure

The maximum working pressure of the hydraulic hose assemblies that ensures the system's normal operation under specified operational conditions.

3.2 Change length

The amount of axial length change of the hydraulic hose assemblies under the

10 M18x1.5 2 22

8 6.0 12.0 17.5 32.0 36.0 - 56.0 71.5 - - M20x1.5 2.5 24

10 7.5 14.0 16.0 28.0 31.0 38.0 51.5 69.0 - 27.6 M22x1.5 2.5 27

16 13.0 20.0 10.5 20.0 22.5 27.5 38.0 48.0 - - M30x2 3 36

19 15.0 25.0 9.0 16.0 20.5 34.5 34.5 43.0 42.0 27.6 M36x2 3 46

25 21.0 30.0 7.0 14.0 20.5 27.5 27.5 34.5 38.0 27.6 M42x2 4 50

5.1 Length changes

The length change of the hydraulic hose assemblies under the maximum working pressure is in accordance with the specifications in Table 6.

Table 6 Length changes

Hose types

Steel-wire-braided hydraulic hoses Steel-wire-wound hydraulic hoses

Type-1, Type-1T Type-2, 3 Type-2T, 3T Type-1 Type-2 Type-3 Type-4 Type-5 Type-6

Length changes

-4% ~ +2% $\pm 2\%$

6.3.9

For bending joint cores, after bending, the deviation of included angle between two axes is $\pm 3^\circ$.

6.3.10

The surface of metal parts shall be processed, the processing method can be negotiated by the supplier and purchaser.

6.4 Hydraulic hoses

The hydraulic hose assemblies shall select the hydraulic rubber hoses which comply with the specifications in GB/T 3683 and GB/T 10544. If there are special requirements, it shall reach an agreement through negotiation of the purchaser and manufacturer, and shall be indicated in the order contract.

6.5 Assembly quality

The assembly requirements of hose assemblies is in accordance with the specifications of GB/T 7935.

6.5.1

The joint parts surface of hose assemblies is prohibited to have defects which affect the product quality, such as cracks, burrs, flashing, concave-convex traces, scratches, and corrosion.

6.5.2

The swaging joint position of hoses and joints shall be flat, the inner surface shall be smooth, unblocked and have no phenomenon of straining the inner rubber layer.

6.5.3

During the cutting, rubber stripping, and assembling process of hoses, it is prohibited to damage the reinforced layer of steel wire or appear the phenomenon of steel wire exposed.

6.5.4

The inner cleanliness requirement of hydraulic hose assembly products is in accordance with the specifications in JB/T 7858.